

## Editorial

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## You still use Dycal?

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I remember in dental school the words Dycal liners and bases rang supreme in the preclinical setting. Since first year of “dental preclinic” we were always told about a variety of products to sooth the tooth after preparation, to help sustain its vitality after the trauma that is preparing the tooth. Whether from micro-fractures, bacteria or etch sensitivity, we knew we wanted it gone quick to be successful at our mission. However, not enough curing lights were available to teach us how to use composites, never mind, light activated liners coming out such as Limeline and Vitrebond. So upon our ripening in the finally of second year, we would be unleashed on real teeth, attached to real live people. These real people we saw in the dental school clinics also wanted composite fillings as well, and without cold sensitivity.

It was always tough to teach composite back in the 2000’s since most of the preclinical chairs didn’t have water and suction, but each station had a mercury disposal jar. So liners fell by the wayside. These live patients also wanted their teeth to not require root canals, even though for years now these people had not cared for, nor brushed, never mind flossed their teeth. But at the dentist office it was now my inherited problem and I had to preform the Herodontics needed to save these teeth and avoid the perception of impending DOOM of a root canal. Even if the patient never had a root canal, the words, letters R.C.T. alone, are enough to always have the patient reply... “do I really need one, isn’t there something else that could be done?” As if we’re in a lunch deli.

The answer was always based on the depth of decay, but there were always those radiographs that looked deeply decayed, but with a glimmer of hope of saving the tooth from a root canal. Especially on a young patient or a tooth with that small amount of decay that you know you can get away with leaving behind if there was just something to make it not hurt after, and kill off as much of the remaining bacteria as we can, then the tooth could pull through and heal, remaining in reversible pulpitis and hopefully returning to health.

We were taught to etch teeth for 30 seconds in preclinic and to use Dycal sparingly because composites do not bond to a big useless glob of chunky white liners. Whether on amalgam or composite restorations, it is always best placed in the tooth’s center, as well as in deep areas of removed decay in the core build up or an operative cavity preparation, in sparing amounts since it is not a solid substance but a highly malleable one. We were told that Dycal would desensitize the deep areas of lost tooth more proximal to the pulp chamber and help kill off the lingering bacteria. However, after a few 30-second etchings, Dycal was just not enough and the clinic staff finally introduced us to Vitrebond. And this love affair continued together with Dycal and Vitrebond for years to come, and we did a lot of indirect pulp caps, and a few small direct ones. I continued to use liners in small amounts often on anything I consider a deep area of the prep. Anything that’s deeper then 2 mm qualified in my book, and I would always line with Vitrebond if in doubt.

4 years ago and years since graduation, we opened our practice and my goal was to fight the need for root canals. The idea was to use resin liners and cleaning materials like Chlorohexidine and Hydrogen peroxide in varying concentrations on the insides of the isolated tooth preparation areas to avoid sensitivity and nagging post-op discomfort. Both of the rinses worked well, but not better then Dycal and Vitrebond in the short term post-op sensitivity.

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Before this my team and I worked on our amalgams and composites with my old friend Dycal in real deep, spots and Vitrebond on top. We removed a lot of old amalgams and composites, all of them lasting decades, but all of them ending in cracked anatomic tooth crowns and a need for prosthetic crown and bridge work.

As we were building the office, what I envisioned to be the greatest place to get dentistry both as the provider and a patient I ran into an article on [www.DentalTown.com](http://www.DentalTown.com). The article mentioned using Sodium Hypochlorite as a 2 minute wash before a Vitrebond Glass-Ionomer style liner was applied after a full rinse and dry.

The first time trying the procedure after the read I was nervous and used the Endodontic designated Hypochlorite gel, which was much less potent and useless as a viscous wash then it may be as an endodontic irrigate. Since we saw no blanching of the dentinal tubules as in the Dental Town article, we tried a second wash of pure Sodium Hypochlorite. After the second 2-minute wash the tubules looked noticeably cleaner and blanched. The tooth is then rinsed and dried for a few seconds (5-10 seconds) and after the tooth is dry we proceed to place the Vitrebond Liner.

While maintaining dryness on the tooth prep, we layered a liner size layer of Vitrebond under a millimetre in thickness in the deepest areas of the prep. However, no trusty but brittle Dycal was used.

The 2-week follow-ups consistently showed the least amount of post-op sensitivity then we have ever had before. Even with the pulp less than a millimetre away and even in some direct yet small exposures, the Hypochlorite wash almost always lead to a successful result with the Vitrebond liner. And at times the Hypochlorite would even help stop the chamber bleeding in the exposure site of the perforation after the 2 minute wash.

After the liner was cured for 20 seconds the tooth was Phosphoric Acid 37% etched for 15 seconds, never 30 seconds like we were taught in school, and under isolation and in dry conditions, we apply and air dry the bond and cure the bond layer over the Vitrebond liner for an additional 20 seconds.

After that, and still under isolation, we then layer the composite and cure it in increments after levelling out the floor with Surefil as the first layer. 30 Second Cure and Packable composite on top and layered for the remainder of the prep.

Since doing this for the past 5 years, our practice growth has been off the charts for a new practice. It is truly amazing what avoiding a root canal for someone will do for business and word of mouth referrals. With the thousand dollar marketing budget for Yelp as a form of online exposure, we are growing at a staggering rate of 60 plus new patients a month and are going to hire our third dentist. Out of the 3 of us only I do endo on a consistent base and there will always be plenty of it. But the ability to build trust and success with your patients by delivering a vital tooth and a beautiful crown or composite on it, as opposed to an in-house endo, or worse a referral appointment, which will drain the patients benefits for the insurance cycle, and be a loss of production and a tooth's life in the balance.